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UTILITY PATENT APPLICATION TRANSMITTAL <small>(Only for new nonprovisional applications under 37 CFR 1.53(b))</small>		Attorney Docket No. Cannon 110-100	
		First Named Inventor Joseph M. Cannon	
		Title SYSTEM AND METHOD FOR UPDATING	
		Express Mail Label No. X	
APPLICATION ELEMENTS <small>See MPEP chapter 600 concerning utility patent application contents.</small>		ADDRESS TO: Assistant Commissioner for Patents Box Patent Application Washington, DC 20231	
1. <input checked="" type="checkbox"/> *Fee Transmittal Form (e.g., PTO/SB/17) <small>(Submit an original, and a duplicate for fee processing)</small>		7. <input type="checkbox"/> CD-ROM or CD-R in duplicate, large table or Computer Program (Appendix)	
2. <input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27		8. Nucleotide and/or Amino Acid Sequence Submission <small>(if applicable, all necessary)</small>	
3. <input checked="" type="checkbox"/> Specification [Total Pages 26] <small>(preferred arrangement set forth below)</small> <ul style="list-style-type: none">- Descriptive title of the invention- Cross References to Related Applications- Statement Regarding Fed sponsored R & D- Reference to sequence listing, a table, or a computer program listing appendix- Background of the Invention- Brief Summary of the Invention- Brief Description of the Drawings (if filed)- Detailed Description- Claim(s)- Abstract of the Disclosure		a. <input type="checkbox"/> Computer Readable Form (CRF)	
4. <input checked="" type="checkbox"/> Drawing(s) (35 U.S.C. 113) [Total Sheets 3]		b. Specification Sequence Listing on: i. <input type="checkbox"/> CD-ROM or CD-R (2 copies), or ii. <input type="checkbox"/> paper	
5. Oath or Declaration [Total Pages 4] a. <input checked="" type="checkbox"/> Newly executed (original or copy)		c. <input type="checkbox"/> Statements verifying identity of above copies	
b. <input type="checkbox"/> Copy from a prior application (37 CFR 1.63(d)) <small>(for continuation/division with Box 17 completed)</small>			
i. <input type="checkbox"/> DELETION OF INVENTOR(S) Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).			
6. <input type="checkbox"/> Application Data Sheet See 37 CFR 1.76			
ACCOMPANYING APPLICATIONS PARTS			
9. <input checked="" type="checkbox"/> Assignment Papers (cover sheet & document(s))			
10. <input type="checkbox"/> 37 CFR 3.73(b) Statement <input type="checkbox"/> Power of Attorney <small>(when there is an assignee)</small>			
11. <input type="checkbox"/> English Translation Document (if applicable)			
12. <input type="checkbox"/> Information Disclosure Statement (IDS/PTO-1449) <input type="checkbox"/> Copies of IDS Citations			
13. <input type="checkbox"/> Preliminary Amendment			
14. <input type="checkbox"/> Return Receipt Postcard (MPEP 503) <small>(Should be specifically itemized)</small>			
15. <input type="checkbox"/> Certified Copy of Priority Document(s) <small>(if foreign priority is claimed)</small>			
16. <input type="checkbox"/> Other: <input type="text"/>			
17. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment, or in an Application Data Sheet under 37 CFR 1.76 <input type="checkbox"/> Continuation <input type="checkbox"/> Divisional <input type="checkbox"/> Continuation-in-part (CIP) of prior application No.: _____ Prior application information: Examiner _____ Group / Art Unit: _____ For CONTINUATION or DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.			
18. CORRESPONDENCE ADDRESS			
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Signature 		Date November 6, 2000	

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**FEE TRANSMITTAL
for FY 2001**

Patent fees are subject to annual revision.

Complete if Known

Application Number	Not Yet Assigned
Filing Date	Not Yet Assigned
First Named Inventor	Joseph M. Cannon
Examiner Name	Not Yet Assigned
Group Art Unit	N/A
Attorney Docket Number	Cannon 110-100

TOTAL AMOUNT OF PAYMENT (\$) 1,522.00**METHOD OF PAYMENT (check one)**

- 1.
- ☒
- The Commissioner is hereby authorized to charge indicated fees and credit any overpayments to

Deposit
Account
Number

12-2325

Deposit
Account
Name

- ☒
- Charge Any Additional
-
- Fee Required Under
-
- 37 CFR 1.16 and 1.17

☐ Applicant claims small
entity status. See
37 CFR 1.27

- 2.
- ☐
- Payment Enclosed

☐ Check ☐ Credit Card ☐ Money Order ☐ Other**FEE CALCULATION****1. BASIC FILING FEE**

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
101	710	201	355	Utility filing fee	710 00
106	320	206	160	Design filing fee	
107	490	207	245	Plant filing fee	
108	710	208	355	Reissue filing fee	
114	150	214	75	Provisional filing fee	

SUBTOTAL (1) (\$) 710 00**2. EXTRA CLAIM FEES**

Total Claims	Extra Claims	Fee from below	Fee Paid
54	-20** = 34	18.00	612 00
Independent Claims	5	-3** = 2	80 00 = 160 00
Multiple Dependent			

** or number previously paid, if greater; For Reissues, see below

Large Entity Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description
103	18	203	9	
102	80	202	40	Claims in excess of 20
104	270	204	135	Independent claims in excess of 3
109	80	209	40	Multiple dependent claim, if not paid
110	18	210	9	** Reissue independent claims over original patent
				** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$) 772.00**FEE CALCULATION (continued)****3. ADDITIONAL FEES**

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
105	130	205	65	Surcharge - late filing fee or oath	
127	50	227	25	Surcharge - late provisional filing fee or cover sheet	
139	130	139	130	Non-English specification	
147	2,520	147	2,520	For filing a request for reexamination	
112	920*	112	920*	Requesting publication of SIR prior to Examiner action	
113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action	
115	110	215	55	Extension for reply within first month	
116	390	216	195	Extension for reply within second month	
117	890	217	445	Extension for reply within third month	
118	1,390	218	695	Extension for reply within fourth month	
128	1,890	228	945	Extension for reply within fifth month	
119	310	219	155	Notice of Appeal	
120	310	220	155	Filing a brief in support of an appeal	
121	270	221	135	Request for oral hearing	
138	1,510	138	1,510	Petition to institute a public use proceeding	
140	110	240	55	Petition to revive - unavoidable	
141	1,240	241	620	Petition to revive - unintentional	
142	1,240	242	620	Utility issue fee (or reissue)	
143	440	243	220	Design issue fee	
144	600	244	300	Plant issue fee	
122	130	122	130	Petitions to the Commissioner	
123	50	123	50	Petitions related to provisional applications	
126	240	126	240	Submission of Information Disclosure Stmt	
581	40	581	40	Recording each patent assignment per property (times number of properties)	40 00
146	710	246	355	Filing a submission after final rejection (37 CFR 1.129(a))	
149	710	249	355	For each additional invention to be examined (37CFR 1.129(b))	
179	710	279	355	Request for Continued Examination (RCE)	
169	900	169	900	Request for expedited examination of a design application	

Other fee (specify)

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$) 40 00**SUBMITTED BY**

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Date

November 6, 2000

PATENT

Docket No.: Cannon 110-100

Ref. No.: L7480.0203/203

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION FOR U.S. LETTERS PATENT

Title:

**SYSTEM AND METHOD FOR UPDATING STORED INFORMATION IN
ELECTRONIC DEVICES**

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SYSTEM AND METHOD FOR UPDATING STORED INFORMATION IN ELECTRONIC DEVICES

BACKGROUND OF THE INVENTION

1. Field of the Invention

5 The present invention relates generally to portable electronic devices, and more particularly to a method and system for updating stored information in the portable electronic devices based on the geographic location of the electronic devices.

2. Description of the Related Art

10 In recent years, public use of portable electronic devices, such as for example wireless communication devices, i.e., cell phones, personal data assistants (PDAs), personal computers, and the like, have increased greatly. Because of their mobility, such devices must be light and compact. A user needs to be able to comfortably carry the device in a pocket, purse or briefcase. Many of these devices are typically
15 provided with several user friendly functions, such as for example scheduling assistants, stored phone numbers for speed dialing, clocks, calendars and the like.

 Despite all of the technological advancements, such portable electronic devices are not without their shortcomings. For example, while many of the electronic devices allow a user to program certain information, such as frequently
20 dialed telephone numbers, important meeting reminders, etc. into the memory for later rapid dialing or notification, this programming function must be performed manually. Manual programming of the electronic device can take time and requires

the user to remember how to perform the steps required to carry out the programming function.

The user can refer to the device's user manual to determine the steps required to properly program the desired information into the device. This, however, is not preferred since these manuals are rarely, if ever, carried around with the device.

The problem of updating or reprogramming information stored in the portable electronic devices is further exacerbated if the user often travels outside of his local geographic region. For example, the telephone numbers stored in the speed dial function typically assume the call will be made within the user's typical local area and therefore generally are not provided with an area code. If the user travels outside of his local area and into a different area code or country, the speed dial function will no longer work as the area code and possibly a country code will be required to place the call.

Additionally, as global travel becomes more prevalent, other functions provided by the portable electronic devices will also be compromised unless the devices are updated or reprogrammed. For example, when the user travels to a different country or time zone, not only will the speed dial numbers no longer operate correctly but the clock and/or calendar functions will also be incorrect due to the time zone change. As noted above, the updating of the stored information and/or operating systems of the electronic device must be performed manually, which requires time and effort on the part of the user.

Thus, there exists a need for a system and method that will automatically update stored information in portable electronic devices based on the geographic location of the electronic device.

SUMMARY OF THE INVENTION

5 The present invention overcomes the problems associated with the prior art and provides a unique method and system for updating stored information in portable electronic devices based on the geographic location of the electronic device.

10 In accordance with one aspect of the present invention, portable electronic devices are provided with built-in transceiver modules which will automatically communicate with base stations provided at centralized high traffic locations, such as for example airports, train stations, bridges, toll booths, bus stations, etc. The base stations transmit low power radio signals to the portable devices that contain commands for the devices to update information stored in the portable devices based on the geographic area, such as for example updating to a new telephone area code
15 or time zone. Accordingly, the portable electronic devices will work seamlessly in the new location without any manual intervention required by the user.

20 In accordance with another aspect of the invention, a global positioning satellite (GPS) system can be utilized to automatically set the transceiver modules in the portable electronic devices to the proper frequency at which the base stations are transmitting thereby ensuring a communication link between the base station and the portable electronic device.

In accordance with another aspect of the invention, a GPS system is used to update information stored in portable electronic devices based on the location of the device as determined by the GPS system.

These and other advantages and features of the invention will become
5 apparent from the following detailed description of the invention which is provided
in connection with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIGURE 1 illustrates in block diagram form a system for updating stored
information in a portable electronic device based on the geographic location of the
10 electronic device in accordance with the present invention;

FIGURE 2 illustrates in block diagram form use of a GPS system to
automatically set the transceiver modules in the portable electronic device of Fig. 1
to the proper frequency at which the base stations are transmitting in accordance
with the present invention; and

15 FIGURE 3 illustrates in block diagram form a system for updating stored
information in a portable electronic device based on the geographic location of the
electronic device in accordance with another embodiment of the present invention.

DETAILED DESCRIPTION

The present invention will be described as set forth in the preferred embodiments illustrated in Figs. 1-3. Other embodiments may be utilized and structural, logical or programming changes may be made without departing from the spirit or scope of the present invention. Like items are referred to by like reference numerals throughout the description.

In accordance with the present invention, stored information in portable electronic devices is updated based on the geographic location of the electronic device. Fig. 1 illustrates in block diagram form a system 10 for updating stored information in a portable electronic device 20 based on the geographic location of the electronic device in accordance with the present invention.

As illustrated in Fig. 1, a portable electronic device 20, such as for example a wireless telephone, PDA, laptop computer, wristwatch or the like, is provided with a transceiver 22 connected to a microprocessor 26 in the device 20. Transceiver 22 is provided with antenna 24 for transmitting and receiving radio signals. Device 20 may be provided with a user input device 28, such as for example a keypad, keyboard, mouse, etc., for inputting information for storage in memory 30. For example, the device 20 may have a speed dial function which allows for storage of telephone numbers in memory 30, or may be provided with a scheduling assistant for storing the date and time of appointments and providing a reminder.

A plurality of base stations 12, such as for example base stations 12a and 12b of Fig. 1, are provided at different geographic locations. Each base station 12 has an antenna for transmitting and receiving radio signals that contain location specific information, such as for example the date, time zone and area code of the geographic region in which the base station 12 is situated. The base stations 12 are strategically placed at predetermined locations where a high volume of traffic from different geographic areas passes. For example, the base stations 12 may be located at airports, train stations, bus stations, toll booths, bridges, border crossing checkpoints, etc. Preferably, the base stations 12 are situated such that passengers passing through these portals will come in close proximity to the base stations 12, such as for example passageways leading from the exit of an airplane, train or bus to the terminal. As illustrated in Fig. 1, base station 12a may be located in a first time zone, such as for example eastern standard time, while the base station 12b may be located on the other side of time zone change line 18 in a second time zone, such as for example central standard time. Alternatively, base stations 12 may be provided in different locations served by different area codes for telephone numbers.

In accordance with the present invention, if device 20 crosses time line 18 to a different time zone and an area served by a different area code, base station 12b will automatically communicate with device 20, causing device 20 to update information stored in memory 30. For example, suppose all information stored in memory 30 of device 20, such as for example telephone numbers, appointments, etc., is stored based on the device being located in a home location, such as for example in the eastern time zone and a specific area code. If device 20 crosses time

line 18 and thus enters to a location in a different time zone and/or served by a different area code, radio signals from base station 12b will be received by device 20 when device 20 is within range of base station 12b. As noted above, the radio signals from base station 12b include the area code and time zone of the geographic region in which base station 12b is situated. When the signals from base station 12b are received by transceiver 22, the information contained in the radio signals is provided to the microprocessor 16 which can then update information stored in memory 30. For example, the system clock could be reset to the new time zone, thereby ensuring that any appointment reminders are still correct. Additionally, if a date line is crossed, the system date would also be updated.

With respect to telephone numbers stored in memory 30 of device 20, when transceiver 22 sends a signal to processor 26 indicating device 20 has entered a location served by a different area code, processor 26 can reference a look-up table in memory 30 to provide a new set of speed dial numbers in which the area code is also provided. For example, suppose all telephone numbers stored in memory 30 are stored with the assumption that the calls will always be made from the same area code which serves those numbers. Thus, the numbers will be stored as seven digit numbers, as the area code is generally not necessary when making local calls. When device 20 enters an area served by a different area code, it will now be necessary to dial the area code prefix along with the seven digit numbers stored in the memory 30. The area code for the telephone numbers stored in memory 30 can also be stored in a look-up table in memory 30 and inserted into the speed dial numbers when device 20 enters an area served by a different area code.

It should be understood that updating of the telephone numbers stored in memory 30 is performed independently of updating the system clock and calendar of device 20. Thus, the present invention is not limited to crossing only a time line, but is also equally applicable to areas served by different area codes or different country codes.

In order for each base station 12 to be able to communicate with any portable device 20 provided with a transceiver 22, it is necessary to establish a certain protocol for these devices. One exemplary protocol is known as Bluetooth™. Bluetooth™ is a radio frequency standard that describes how portable electronic devices, such as wireless telephones, PDAs, and personal computers, can easily interconnect with each other and with home and business phones and computers using a short-range wireless connection. The Bluetooth™ specification ensures that diverse devices supporting the Bluetooth™ technology can communicate with each other worldwide. The Bluetooth™ protocol allows for the automatic connections between the devices without any user intervention. Thus, when Bluetooth™ equipped devices come within range of one another, such as for example when device 20 comes in range of base station 12b, the device 20 and base station 12b will communicate with each other via a radio frequency link to determine if they have information to share or whether one needs to control the other. In accordance with the present invention, base station 12b will share information concerning the local time zone, date, area code, etc. in which base station 12b is situated. Device 20, upon receiving this information from base station 12b, will update any information

stored in memory 30 that might be affected by the change in location of device 20 as previously described.

Thus, in accordance with the present invention, stored information in portable electronic devices is automatically updated based on the geographic
5 location of the electronic device.

As previously noted, the use of the present invention is applicable to when a portable electronic device travels into a geographic location in a new time zone or a new country. If the Bluetooth™ protocol is utilized, it will be necessary to update the country code within the Bluetooth™ transceivers in the electronic devices to
10 ensure the devices are operating on the proper frequencies. Bluetooth™ utilizes a technique called spread-spectrum frequency hopping, in which multiple randomly chosen frequencies within a designated range are utilized, with the chosen frequency changing on a regular basis. By regularly changing the frequencies within the given range, Bluetooth™ devices are prevented from interfering with one another as it is
15 unlikely that more than one device within range will be on the same frequency at the same time. In Bluetooth™, the transmitters change frequencies 1,600 times every second. When an initial conversation between Bluetooth™ devices has occurred, such as for example between a device 20 and base station 12b of Fig. 1, a piconet, or small network, is created between device 20 and base station 12b and device 20 and
20 base station 12b will randomly hop frequencies in unison to maintain the transfer of data.

The Bluetooth™ standard specifies the frequencies and number of channels at which the devices will communicate. The channel spacing is 1 MHz, and a guard band, typically several MHz wide, is provided at the upper and lower band edge. In addition, each country or specified groups of countries are given a unique code. The country codes and the corresponding frequencies for some countries are listed in Table 1 below.

Table 1

	<u>Geographic Area</u>	<u>Country Code</u>	<u>Frequency Range (MHz)</u>	<u>No. of Channels</u>
10	US and Europe	00	2400-2483.5	79
	Spain	01	2445-2475	23
	France	02	2446.5-2483.5	23
	Japan	03	2471-2497	23

Any device equipped with Bluetooth™ must update its country code when it passes from one country to another in order to properly work, and additionally so that it will not violate any type of local regulations regarding transmission frequencies, such as for example FCC regulations in the US.

In accordance with another aspect of the present invention, a global positioning satellite (GPS) system can be utilized to automatically set Bluetooth™ devices to the proper country code, and hence corresponding proper frequencies, for that country. Fig. 2 illustrates in block diagram form use of a GPS system to automatically set a Bluetooth™ equipped device to the proper country code in accordance with the present invention.

GPS systems are used to determine or fix the position of a receiver using signals transmitted simultaneously from several satellites. As illustrated in Fig. 2, satellites 50a, 50b, 50c, 50n are used to determine the position of portable device 40. Device 40 is similar to device 20 of Fig. 1, and additionally includes a GPS receiver 42 which is able to receive the transmissions of those satellites that are “in view” (i.e., not blocked by the curvature of the earth). The receiver 42 uses the arrival time differences between the received simultaneously transmitted signals, along with satellite Doppler, position data and other data embedded in the simultaneously transmitted signals, to calculate the position of the receiver 42 and correspondingly the position of device 40. The result is provided in the form of a geographic position – longitude and latitude – typically accurate within 100 meters. GPS receiver 42 will provide the geographic position to transceiver 22. Based on the geographic position from GPS receiver 42, transceiver 22 can then determine the current country in which the device 40 is located and set the country code accordingly.

Thus, suppose for example device 40 is crossing over border 48 from one country to another, such as for example France to Spain. When device 40 is in Spain and operating according to the Bluetooth™ specification, it will be utilizing the frequency range of 2445-2475 MHz associated with country code 01 for Spain.

When device 40 crosses border 48 into France, GPS receiver will provide the geographic position of device 40 to transceiver 22, which can then determine that device 40 has moved into a new country, such as for example by a look-up table that stores longitude and latitude data with respect to country location, and transceiver

22 can automatically update the country code to 02 for France and adjust its
operating frequency to 2446.5-2483.5 MHz. Device 40 can then establish a
communication with base station 12b and information stored in memory 30 of
device 40 can be updated by signals from base station 12b as described with respect
5 to Fig. 1.

Thus, in accordance with the present invention, a global positioning satellite
(GPS) system can be utilized to automatically set Bluetooth™ devices to the proper
country code, and hence corresponding proper frequencies, for that country.

Fig. 3 illustrates in block diagram form a system 60 for automatically
10 updating stored information in a portable electronic device based on the geographic
location of the electronic device in accordance with another embodiment of the
present invention. In system 60, a GPS system is used to determine a current
geographic position of the device. Based on the current geographic position of the
device, its current geographic location, such as for example state or country, is
15 determined and the information stored in portable electronic devices is automatically
updated based on the geographic location of the device.

As illustrated in Fig. 3, a portable device 60 includes a processor 26 coupled
to a memory 30 and a user input device 28 similar to device 20 described with
respect to fig. 1. In system 60, satellites 50a, 50b, 50c, 50n are used to determine
20 the geographic position of portable device 60. Device 60 additionally includes a
GPS receiver 42 which is able to receive the transmissions of those satellites that are
“in view” (i.e., not blocked by the curvature of the earth). The operation of receiver

42 is similar to that as described with respect to Fig. 2. GPS receiver 42 will provide the determined geographic position to processor 26. Based on the geographic position from GPS receiver 42, processor 26 can reference look-up tables in memory 30 to retrieve information specific to the current geographic location, i.e., time zone, area code, country code, etc. of the location in which the device 62 is currently located and then update information stored in memory 30. Accordingly, the information stored in memory 30 will be automatically updated based on the geographic location of the portable device 62.

While the invention has been described with respect to information stored in a portable electronic device being automatically updated when the portable electronic device enters a new geographic location, the invention is not so limited. For example, it may be desired for the information stored in the electronic device to be updated only at certain times. Accordingly, the automatic update feature could be disabled by a user, and the user could select when an update should occur by enabling the automatic update feature of the present invention. Additionally, the portable electronic device could be provided with an indicator 70, such as for example an LED or speaker to provide an audible tone, indicating that information received from a base station or GPS system necessitates an update to stored information. For example, when processor 26 determines that the information stored in memory 30 should be updated based on information received from transceiver 22, it will activate indicator 70. A user could then select whether or not to have the stored information updated by processor 26 activating a control button 72 on the electronic device.

Reference has been made to preferred embodiments in describing the invention. However, additions, deletions, substitutions, or other modifications which would fall within the scope of the invention defined in the claims may be implemented by those skilled in the art and familiar with the disclosure of the invention without departing from the spirit or scope of the invention. Accordingly, the invention is not to be considered as limited by the foregoing description, but is only limited by the scope of the appended claims.

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What is claimed as new and desired to be protected by Letters Patent of the United States is:

1. A system for updating information stored in a memory of a portable electronic device, said system comprising:

5 a plurality of base stations, each of said plurality of base stations being located at a respective geographic location and transmitting a radio signal including information specific to said respective geographic location; and

a transceiver in said portable electronic device,

10 wherein when said portable electronic device comes into range of one of said plurality of base stations, said device receives said radio signal from said one of said plurality of base stations and based on said information in said radio signal updates said information stored in said memory of said portable electronic device.

2. The system of claim 1, wherein said update of said information stored in said memory of said portable electronic device is done automatically without any
15 intervention from a user.

3. The system of claim 1, wherein said information stored in said memory of said portable electronic device includes a telephone number for a speed dial function.

4. The system of claim 1, wherein said information stored in said memory of said portable electronic device includes a calendar.

5. The system of claim 1, wherein said information stored in said memory of said portable electronic clock includes a clock.

5 6. The system of claim 1, wherein said information included in said radio signal includes a time zone.

7. The system of claim 1, wherein said information included in said radio signal includes a telephone area code associated with said respective geographic location.

8. The system of claim 1, wherein said information included in said radio signal
10 includes a date.

9. The system according to claim 1, wherein said information included in said radio signal includes a telephone country code associated with said respective geographic location.

10. The system according to claim 1, wherein each of said plurality of base
15 stations transmits said radio signal in a predefined range of frequencies.

11. The system according to claim 10, wherein said predefined range of frequencies is associated with a country code, and said transceiver is set to receive said predefined range of frequencies based on said country code.

12. The system according to claim 11, wherein said portable electronic device further comprises:

a global positioning satellite receiver, said global positioning satellite receiver receiving signals from at least one satellite and determining a position of said

5 portable electronic device based on said signals from said at least one satellite,

wherein said position of said portable electronic device is provided to said transceiver, said transceiver determining a country in which said portable electronic device is currently located based on said position and updating said country code to said country in which said portable electronic device is currently located to receive
10 said predefined range of frequencies associated with said country code.

13. The system according to claim 12, wherein said transceiver determines said country in which said portable electronic device is currently located by referencing a look-up table.

14. The system according to claim 1, wherein said plurality of base stations and
15 said portable electronic device are Bluetooth™ compliant.

15. A portable electronic device comprising:

a processor;

a memory coupled to said processor, said memory storing information; and

a receiver coupled to said processor, said receiver receiving radio signals, said radio signals including information specific to a geographic location, said receiver providing said information specific to said geographic location to said processor,

wherein said processor in response to receiving said information from said receiver updates said information stored in said memory based on said information specific to said geographic location.

16. The device according to claim 15, wherein said update of said information stored in said memory of said portable electronic device is done automatically without any intervention from a user.

17. The device according to claim 15, wherein said processor in response to receiving said information from said receiver provides an indication of receipt of said information from said receiver before updating said information stored in said memory.

18. The device according to claim 17, wherein said processor updates said information stored in said memory in response to a control signal input by a user.

19. The device according to claim 15, wherein said information stored in said memory includes a telephone number for a speed dial function.

20. The device according to claim 15, wherein said information stored in said memory includes a calendar.

21. The device according to claim 15, wherein said information stored in said memory includes a clock.

22. The device according to claim 15, wherein said information included in said radio signal includes a time zone.

5 23. The device according to claim 15, wherein said information included in said radio signal includes a telephone area code associated with said geographic location.

24. The device according to claim 15, wherein said information included in said radio signal includes a date.

25. The device according to claim 15, wherein said information included in said
10 radio signal includes a telephone country code associated with said geographic location.

26. The device according to claim 15, wherein said device is set to receive said radio signals in a predefined range of frequencies based on a country code.

27. The device according to claim 26, further comprising:

15 a global positioning satellite receiver, said global positioning satellite receiver receiving signals from at least one satellite and determining a position of said portable electronic device based on said signals from said at least one satellite,

wherein said position of said portable electronic device is provided to said transceiver, said transceiver determining a country in which said portable electronic

device is currently located based on said position and updating said country code to said country in which said portable electronic device is currently located to receive said predefined range of frequencies based on said country code.

28. The device according to claim 27, wherein said transceiver determines said country in which said portable electronic device is currently located by referencing a look-up table.

29. The device according to claim 15, wherein said device is Bluetooth™ compliant.

30. A portable electronic device comprising:

a processor;

a memory coupled to said processor, said memory storing information; and

a global positioning satellite receiver coupled to said processor, said global positioning satellite receiver determining a current geographic position of said portable electronic device based on signals received from at least one satellite, said global positioning satellite receiver providing said current geographic position of said portable electronic device to said processor,

wherein said processor in response to receiving said current geographic position of said portable electronic device automatically updates said information

stored in said memory based on said current geographic position of said portable electronic device.

31. The device according to claim 30, wherein said processor determines a current geographic location of said portable electronic device based on said current geographic position of said portable electronic device and automatically updates said information stored in said memory based on said current geographic location of said portable electronic device.

32. The device according to claim 31, wherein said information stored in said memory includes a telephone number for a speed dial function.

33. The device according to claim 31, wherein said information stored in said memory includes a calendar.

34. The device according to claim 31, wherein said information stored in said memory includes a clock.

35. A method for updating information stored in a memory of a portable electronic device, said method comprising the steps of:

receiving a radio signal from a base station when said portable electronic device comes into range of said base station, said radio signal including information specific to a geographic location in which said base station is situated; and

updating said information stored in said memory based on said information specific to said geographic location.

36. The method according to claim 35, wherein said updating of said information stored in said memory of said portable electronic device is done automatically
5 without any intervention from a user.

37. The method of claim 35, wherein said information stored in said memory of said portable electronic device includes a telephone number for a speed dial function.

38. The method of claim 35, wherein said information stored in said memory of
10 said portable electronic device includes a calendar.

39. The method of claim 35, wherein said information stored in said memory of said portable electronic clock includes a clock.

40. The method of claim 35, wherein said information included in said radio signal includes a time zone.

15 41. The method of claim 35, wherein said information included in said radio signal includes a telephone area code associated with said respective geographic location.

42. The method of claim 35, wherein said information included in said radio signal includes a date.

43. The method according to claim 35, wherein said information included in said radio signal includes a telephone country code associated with said respective geographic location.

44. The method according to claim 35, wherein said step of receiving further
5 comprises:

receiving said radio signal in a predefined range of frequencies, said predefined range of frequencies being associated with a specific country code.

45. The method according to claim 44, further comprising:

determining a position of said portable electronic device based on signals
10 received from at least one satellite;

determining a geographic location of said portable electronic device based on said determined position; and

determining said country code based on said determined geographic location to receive said predefined range of frequencies associated with said determined
15 country code.

46. A method for updating information stored in a memory of a portable electronic device, said method comprising the steps of:

determining a position of said portable electronic device based on signals received from at least one satellite;

determining a geographic location of said portable electronic device based on said determined position; and

updating said information stored in said memory based on said determined geographic location.

5 47. The method of claim 46, wherein said information stored in said memory of said portable electronic device includes a telephone number for a speed dial function.

48. The method of claim 46, wherein said information stored in said memory of said portable electronic device includes a calendar.

10 49. The method of claim 46, wherein said information stored in said memory of said portable electronic clock includes a clock.

50. The method of claim 46, wherein said information included in said radio signal includes a time zone.

15 51. The method of claim 46, wherein said information included in said radio signal includes a telephone area code associated with said geographic location.

52. The method of claim 46, wherein said information included in said radio signal includes a date.

53. The method according to claim 46, wherein said information included in said radio signal includes a telephone country code associated with said respective geographic location.

54. The method according to claim 46, wherein said step of updating further
5 comprises:

referencing a look-up table to retrieve information associated with said
determined geographic location.

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ABSTRACT

A method and system for updating information stored in portable electronic devices based on the geographic location of the electronic devices is disclosed. The portable electronic devices are provided with built-in transceiver modules which will automatically communicate with base stations provided at centralized high traffic locations. The base stations transmit low power radio signals to the portable devices that contain commands for the devices to automatically update information stored in the portable devices based on the geographic area, such as for example updating to a new telephone area code or time zone. Additionally, a global positioning satellite (GPS) system can be utilized to automatically set the transceiver modules in the portable electronic devices to the proper frequency at which the base stations are transmitting thereby ensuring a communication link between the base station and the portable electronic device. Alternatively, a GPS system can be utilized to update information stored in the portable electronic devices based on the geographic location of the electronic devices.

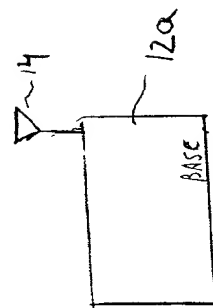
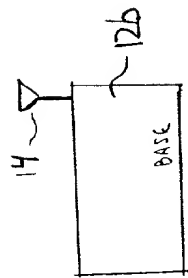
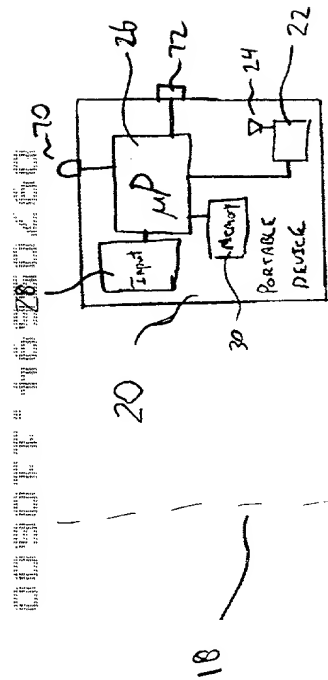


FIG. 1



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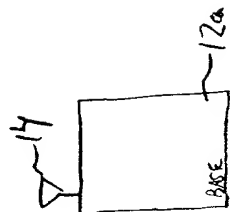
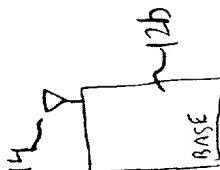
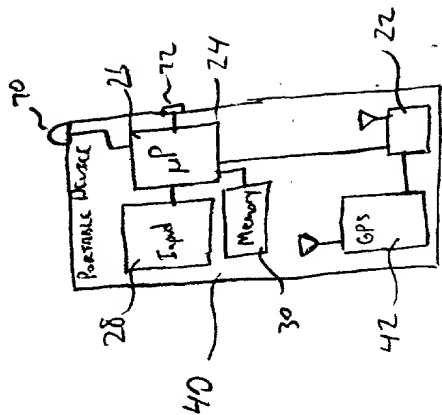
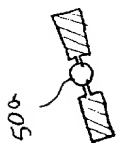
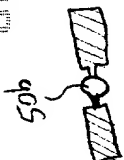
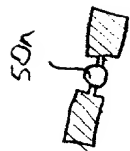
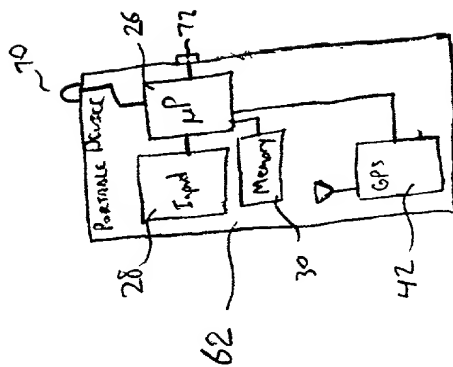
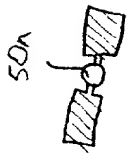
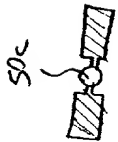
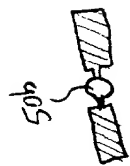
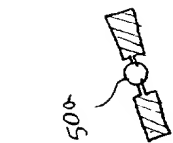


FIG. 2

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FIG. 3

IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE

Declaration and Power of Attorney

As the below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled **SYSTEM AND METHOD FOR UPDATING STORED INFORMATION IN ELECTRONIC DEVICES** the specification of which is attached hereto.

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by an amendment, if any, specifically referred to in this oath or declaration.

I acknowledge the duty to disclose all information known to me which is material to patentability as defined in Title 37, Code of Federal Regulations, 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

None

I hereby claim the benefit under Title 35, United States Code, 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, 112, I acknowledge the duty to disclose all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

None

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

I hereby appoint the following attorney(s) with full power of substitution and revocation, to prosecute said application, to make alterations and amendments therein, to receive the patent, and to transact all business in the Patent and Trademark Office connected therewith:

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I hereby appoint the attorney(s) on ATTACHMENT A as associate attorney(s) in the aforementioned application, with full power solely to prosecute said application, to make alterations and amendments therein, to receive the patent, and to transact all business in the Patent and Trademark Office connected with the prosecution of said application. No other powers are granted to such associate attorney(s) and such associate attorney(s) are specifically denied any power of substitution or revocation.

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